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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,131	04/05/2001	Graham Mensa-Wilmot	05516.088001	4894

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EXAMINER

PETRAVICK, MEREDITH C

ART UNIT

PAPER NUMBER

3671

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/827,131

Applicant(s)

MENSA-WILMOT ET AL.

Examiner

Meredith C Petravick

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the polycrystalline diamond layer, the substrate layer and an elliptical shape cutter must be shown or the features canceled from the claims. No new matter should be entered.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters 10-12, 14-16 and 25 has been used to designate different parts in Figures 1-
3. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 10 and 18 are objected to because of the following informalities:
- a. Claim 10, line 4, "polycrystalline diamond compact" should be --polycrystalline diamond compact cutting element--,
 - b. Claim 18, line 4, "polycrystalline diamond compact" should be --polycrystalline diamond compact cutting element--,

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

7. Claims 1-2, 5-8, 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sinor 6,302,223 B1.

Sinor discloses a drill bit comprising:

- a bit body (12) with blades (14)

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- polycrystalline diamond (Column 7, line 2) compact cutting element (160)
including a substrate and polycrystalline diamond layer (Fig. 4).

The polycrystalline diamond compact cutting elements have diameters in a range of 19 mm to 25 mm (Column 7, line 14-16). The interface between the substrate and polycrystalline diamond layer is non-planar (Fig.4)

In regards to claim 7-8 and 15-16, the polycrystalline diamond cutter can be elliptical (Column 7, lines 16-21).

8. Claims 1-3, 10-11 and 18-19 rejected under 35 U.S.C. 102(b) as being anticipated by Dennis 5,566,779.

Dennis discloses a polycrystalline diamond compact cutting element for use on a bit with a body (Column 1, lines 7-12). The cutting element includes a substrate (12) and polycrystalline diamond layer (30). The interface between the substrate and the polycrystalline diamond layer is non-planar. The polycrystalline diamond compact cutting elements have diameter of 19 mm and a thickness of 0.160 inches (Column 3, lines 30-33).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinor.

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Sinor discloses the claimed invention as described above and including an exposure. However, Sinor fails to disclose the polycrystalline diamond layer having a thickness between 0.140 inches and 0.240 inches or an exposure being 11 mm. The specification does not provide any criticality to the thickness of the polycrystalline diamond layer, or to the exposure. It merely states that these dimension are not the common dimensions. Therefore, without any criticality disclosed in the specification, it would be obvious to one having ordinary skill in the art at the time the invention was made make the polycrystalline diamond layer have a thickness between 0.140 inches and 0.240 inches or the exposure 11 mm.

11. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dennis.

Dennis discloses the claimed invention as described above and including an exposure. However, Dennis fails to disclose the polycrystalline diamond layer having a diameter greater than 19mm, a thickness between 0.160 inches and 0.240 inches or an exposure being 11 mm. The specification does not provide any criticality to the thickness of the polycrystalline diamond layer, or to the exposure. It merely states that these dimension are not the common dimension. Therefore, without any criticality disclosed in the specification, it would be obvious to one having ordinary skill in the art at the time the invention was made make the polycrystalline diamond layer have a diameter greater than 19 mm, a thickness between 0.160 inches and 0.240 inches or the exposure 11 mm.

Conclusion

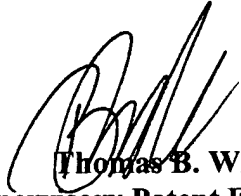
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meredith Petravick whose telephone number is 703-305-0047.

The examiner can normally be reached on Monday-Thursday from 7:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at 703-308-3870.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-1113. The fax number for this Group is 703-305-3597.


Thomas B. Will
Supervisory Patent Examiner
Group Art Unit 3671

MCP
June 20, 2002